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Title Page

Asymptomatic *Giardia Intestinalis* infection and Roux-Y-Gastric Bypass

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20 **Contributions:** LG collected data and contributed to discussion; LG, CP and EBL contributed to case conceptualization, participated in writing and reviewing of the manuscript. **Correspondence:** Laurent Genser; laurent.genser@gmail.com

Shortenned title: Giardiasis and gastric bypass

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Giardiasis is one of the most common parasitic infections of the human intestine worldwide, and ranges from 3-7% in western countries to 100% in some populations [1]. *Giardia Intestinalis* (i.e *Duodenalis* or *Lambli*a) is a flagellated, binucleated protozoan parasite that
40 infects the upper intestinal tract in many mammalian hosts. Giardiasis can present with a broad range of clinical manifestations, from being asymptomatic to acute or chronic nonspecific gastro-intestinal symptoms associated with malnutrition [2]. However little is known regarding Giardiasis in human obesity.

A 41 year-old obese woman (BMI: 53.2 kg/m², weight: 159 kg) with a normal clinical
45 examination and preoperative investigations underwent an uneventful Roux-en-Y gastric bypass. A jejunal sample of surgical waste was systematically collected and analyzed in the context of a clinical trial (NCT02292121). During the morphological inspection of the jejunal epithelium by electron microscopy, an infection by *Giardia Lambli*a was detected (Figure 1) [3]. Once the diagnosis was confirmed by fecal parasitological examination, infestation was
50 successfully eradicated.

Giardiasis is responsible for long-term post-infectious gastrointestinal and extra-intestinal (1:3) complications, including persistent malnutrition [4], even when successfully eradicated. This case report and the known manifestations of giardiasis may warrant the search of this infection in patients showing unexpected nutritional complications, and would also justify a
55 reinforced follow-up in patients with a history of Giardiasis.

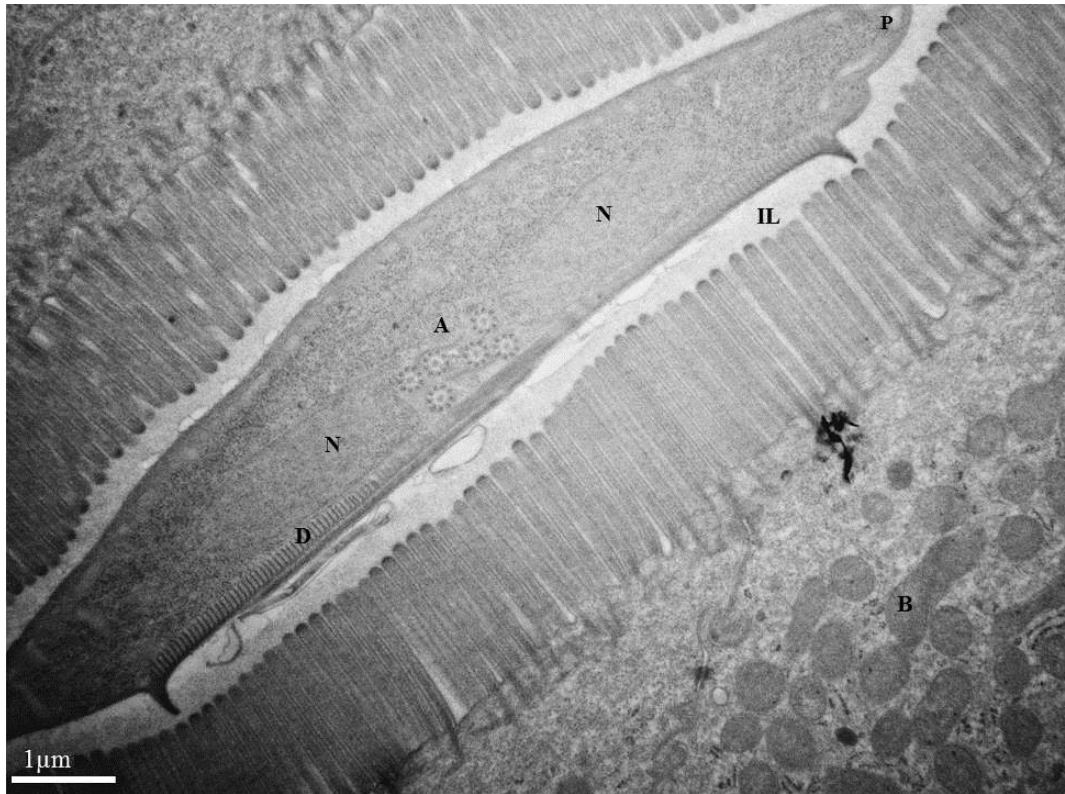


Figure Legends:

Figure 1: Transmission Electron microscopy image showing detail of a *Giardia Intestinalis*

60 surrounding an epithelial cell of the jejunal mucosa within the intestinal lumen (IL): The
 ventral disk (D); the two nuclei (N), Peripheral vesicles (P) and flagellar axonemes (A).
 Jejunal cell shows an increased number of intra-cytoplasmic multi-vesicular and dense bodies
 (B)

65 **Keywords:** Giardia intestinalis; gastric bypass; symptom

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